IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF:

GROUP:

Hidetoshi NARUKI, et al

SERIAL NO.:

EXAMINER:

FILED: Concurrently

FOR: METHOD FOR PROCESSING AND REPRODUCING AUDIO SIGNAL AT DESIRED SOUND QUALITY, REDUCED DATA VOLUME OR ADJUSTED OUTPUT LEVEL, APPARATUS FOR PROCESSING AUDIO SIGNAL WITH SOUND QUALITY CONTROL INFORMATION OR TEST TONE SIGNAL OR AT REDUCED DATA VOLUME, RECORDING MEDIUM FOR RECORDING AUDIO SIGNAL WITH SOUND QUALITY CONTROL INFORMATION OR TEST TONE SIGNAL OR AT REDUCED DATA VOLUME, AND APPRATUS FOR REPRODUCING AUDIO SIGNAL AT DESIRED SOUND QUALITY, REDUCED DATA VOLUME OR ADJUSTED OUTPUT LEVEL

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
& Trademarks
Washington, DC 20231

S I R:

This is a CONTINUATION of application serial number 09/025,886 filed on February 18, 1998 and allowed on November 2, 2001. The entire disclosure of the prior application serial number 09/025,886 is considered a part of the disclosure of this continuation application and is hereby incorporated by reference. Please deduct all fees in connection with this filing from Deposit Account No. 01-1944.

Prior to examination, applicants respectfully request that the application be amended as follows:

IN THE CLAIMS:

Please cancel the claims in the attached application and add new claims 60, 61 and 62 attached hereto in place thereof.

REMARKS

The prior application serial number 09/025,886 filed on February 18, 1998 has been allowed and the issue fee paid. This continuation application incorporates the entire disclosure of the prior application by reference.

Applicants respectfully request that this application proceed to prosecution.

Respectfully submitted,

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EXPRESS MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail in an envelope addressed: Commissioner of Patents & Trademarks, BOX PATENT APPLICATION, Washington, DC 20231 on February 4, 2002 with Express Mail Label No. EL763940984US.

Date: Feb. 4, 2002

NEW CLAIMS:

60. An audio signal processing method, comprising the steps of:

converting analog audio signals of multiple channels into multiple digital data streams corresponding to the multiple channels, the multiple digital data streams having original maximum levels which are different from each other;

producing level-shift control data responsive to a highest level among the original maximum levels of the multiple digital data streams;

shifting levels of all the multiple digital data streams by a determined amount determined by the level-shift control data and resulting level-shifted data streams corresponding to the multiple channels;

coding the level-shifted data streams and the level-shift control data to produce a packed data stream to be recorded on a recording medium; and

modulating the packed data of the level-shifted data streams and the level-shift control data to produce a modulated signal to be recorded on the recording medium.

61. The audio signal processing method according to claim 1, in which multiple audio reproduction control information respectively including information for adjusting sound quality are added to the multiple digital data streams.

62. An audio signal reproducing method for reproducing audio signals of multiple channels from a modulated packed data stream composed of level-shifted data streams corresponding to the multiple channels, and further composed of level-shift control data, the level-shifted data streams being produced by the multiple channels digital data streams having original maximum levels which are different from each other, all the level-shifted data streams being level-shifted by a determined amount determined by a level-shift control data which is produced in response to a highest level among the

original maximum levels, both of the level-shifted data streams and the level-shift control data being coded to produce the packed data stream, the audio signal reproducing method comprising the steps of:

demodulating the modulated packed data stream to reproduce the packed data stream;

decoding the packed data stream to reproduce the level-shifted data streams and the level-shift control data;

recovering the original maximum levels of the multiple digital data streams by adjusting levels thereof responsive to the level-shift control data decoded; and

outputting the multiple digital data streams having the original maximum levels thus recovered.